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ABSTRACT

This executive summary discusses the definition of learning disabilities (LD) and how students are identified as having a learning disability. It begins by outlining four major methods that are used to compute the discrepancy-based definition of LD and the flaws of the discrepancy-based model. It then describes an approach to defining LD that is based on how students respond to instructional interventions and how such an assessment process can be developed and used in identification and instruction. The process presented, "responsiveness to intervention," is defined as the change in behavior or performance as a function of an intervention and uses a discrepancy-based approach. However, the discrepancy is between pre- and post-intervention levels of performance. A resistance to intervention approach to eligibility determination identifies students as having a learning disability if their academic performance does not change in response to a validated intervention implemented with integrity. Several models of intervention are presented for adopting the responsiveness to intervention approach in defining LD, including predictor-criterion models that use and teach those skills that best predict reading competency; a dual-discrepancy model based on children's failure to respond to well planned and well implemented general education interventions; and applied behavior analytic models. (CR)

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RESPONSIVENESS TO INTERVENTION: AN ALTERNATIVE APPROACH TO THE IDENTIFICATION OF LEARNING DISABILITIES

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EXECUTIVE SUMMARY

Introduction

The learning disabilities (LD) category now accounts for 52 percent of all students with disabilities served in special education under the Individuals with Disabilities Education Act (IDEA). However, the process by which public schools identify students as learning disabled (LD) often appears confusing, unfair, and logically inconsistent. G. Reid Lyon of the National Institute of Child and Human Development suggests that "learning disabilities have become a sociological sponge to wipe up the spills of general education."

Findings over the past 15 years have pointed out the lack of consistent definition in policy or practice in the identification of LD students, a circumstance that has been a major stumbling block to effective research and practice (Lyon, 1996). Research findings indicate that substantial proportions of school-identified LD students—from 52 to 70 percent—fail to meet state or federal eligibility criteria. Further, between 1976–77 and 1996–97, the number of students served as LD increased *283 percent*. During this same period, the number of students served as mentally retarded (MR) decreased 60 percent (U.S. Dept. of Education, 1998).

Findings

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Unlike diagnosing children with physical or sensory disabilities or those with more severe forms of mental retardation, detecting students who exhibit milder disabilities, such as LD or mild mental retardation (MMR), is fraught with much error. The three-step process (referral,

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psychological evaluation, and team decisions) currently employed by public schools for identifying, classifying, and placing students with learning disabilities too often results in false positives, false negatives, inappropriate placements, or some combination. Teams vary from place to place and from child to child, and at each point in the process, the weighting given to various factors differs. Teachers employ classroom observation and professional judgment, psychologists employ standardized measures, and multidisciplinary teams employ a combination of local and national norms to make their decisions.

Further, differentiating among groups of children having learning disabilities (LD), mild mental retardation (MMR), and low achievement (LA) has always been problematic. Analyses and interpretations of the data provide different answers, leaving researchers and practitioners to decide which analyses and conclusions to believe. This distinction is important, given that significant educational decisions are made for children with these characteristics and that these decisions have substantial economic and legal consequences for school districts.

IQ-Achievement Discrepancy and LD Definition

The LD construct has been operationalized using a *discrepancy-based* definition. Four major methods are used to compute discrepancy:

- deviation from grade level;
- expectancy formulas (a comparison between a child's expected and observed grade level);
- simple standard score difference (between IQ and achievement measured on standardized tests); and
- standard regression analysis (attempting to account for measurement errors in the simple difference method).

These discrepancy approaches to quantifying LD have been used to qualify students for special education and related services. However, each method has a number of conceptual and statistical drawbacks. Further, a major controversy in discrepancy-based notions of defining LD is the central importance assigned to IQ tests in this process, because they contribute little reliable information for planning, implementing, and evaluating instructional interventions. Although the system now in place does identify students in need of services, expensive and time-consuming assessments at three different steps could be streamlined and articulated to be more respectful of the judgment of both teachers and school professionals about a student's need for immediate intervention services.

The most serious flaw in the current process is the absence of a direct link between assessment procedures used for identification and subsequent interventions that might be prescribed on the basis of these assessment procedures. What appears to be needed is an approach to defining LD that is based on how students respond to instructional interventions rather than on some arbitrarily defined discrepancy between ability and achievement. This paper describes how such an assessment process can be developed and used in identifying and instructing students with LD.

Alternative Responsiveness to Intervention

Responsiveness to intervention, defined as the change in behavior or performance as a function of an intervention (Gresham, 1991), uses a discrepancy-based approach. However, the discrepancy is between pre- and post-intervention levels of performance. The goal for all LD students is to improve academic performances, primarily in reading. A *resistance to intervention* approach to eligibility determination identifies students as having a learning disability if their academic performances in relevant areas do not change in response to a validated intervention implemented with integrity.

Treatment validity is the degree to which any assessment procedure contributes to beneficial outcomes. For a test to have treatment validity, it must lead to better treatments (i.e., better educational programs, teaching strategies, etc.). Judgment about the need for special education is reserved until the effects of instructional adaptations have been assessed in the regular classroom and data verify that a special education program would enhance learning. One promising assessment approach that meets the treatment validity criterion and that can be used to make eligibility decisions is *curriculum-based measurement* (CBM) (Fuchs & Fuchs, 1997, 1998; Reschly & Grimes, 1995; Shinn, 1995).

There is a great deal of empirical support for adopting a treatment validity approach rather than a discrepancy-based approach to defining LD. Vellutino et al. (1996) noted that since the discrepancy approach to defining LD does not screen out those children whose reading difficulties might be due to limited or ineffective reading instruction, exposure to intensive reading instruction should be used to distinguish between reading problems caused by cognitive deficits and those caused by poor or inadequate reading instruction.

Adopting a treatment validity approach for identifying LD must meet certain technical requirements: the ability to model academic growth; the availability of validated treatment protocols; the ability to distinguish between ineffective instruction and unacceptable individual learning; the ability to inform instruction; and sensitivity to detection of treatment.

Models of Responsiveness to Intervention

Several models of intervention might be considered in adopting the responsiveness to intervention approach in defining LD:

- predictor-criterion models that use and teach those skills that best predict reading competency;

- a dual-discrepancy model based on children's failure to respond to well-planned and well-implemented general education interventions; and
- applied behavior analytic models that focus on the manipulation of antecedent and consequent environmental events to improve reading competence.

These models of intervention in the literature have produced strong effects with disabled readers. However, the process for adopting them within the LD eligibility process must be established. The purpose in LD identification is to identify students who are not responding to a validated intervention after a reasonable period of time, not to remediate or "normalize" reading skills. What constitutes a "reasonable period of time" and what defines inadequate responsiveness need to be determined.

The *predictor-criterion model* of intervention focuses on component skills or processes that represent the best predictors of skill in learning to read. Berringer and Abbott (1994) suggested that oral language skills (e.g., phonemic awareness, phonetic segmentation, rhyme) and orthographic skills (letter coding, letter cluster, word recognition) are among the best predictors of reading. Criteria used to evaluate reading competence include reading accuracy, reading rate, and reading comprehension. Similarly, direct instruction models (e.g., Englemann & Carnine, 1982; Kameenui et al., 1995) and strategy training models (e.g., Graham & Harris, 1996; Leven, 1986; Pressley & Ghatala, 1990) focus on teaching those skills and strategies that best predict reading performances.

Reading intervention programs having the most empirical support use a combination of direct instruction and strategy training (Swanson & Hoskyn, 1999). In addition, the work of Torgesen et al. (2001) showed strong and equal effects of reading programs focusing primarily on phonemic awareness and phonemic decoding versus programs emphasizing the application of

these skills in reading meaningful text. The intensity of this treatment may have influenced treatment outcome as well. Recall that these interventions were implemented for 67.5 hours over 8 weeks. Vellutino et al. (1996) used a similar intervention program that included a large component of strategy training. This intervention lasted 30 to 40 hours over 15 weeks. Swanson and Hoskyn's (1999) meta-analysis showed that the prototypical reading intervention lasted 13.3 hours over approximately 7 weeks.

Fuchs and Fuchs suggest that special education be considered only when a child's performance shows a *dual discrepancy*—the student both performs below the *level* evidenced by classroom peers and shows a learning *rate* substantially below that of classroom peers. They suggest qualifying a student for special education requires three criteria:

- a dual discrepancy between the student's performance *level* and *growth* and those of peers must be documented;
- the student's rate of learning with adaptations made in the general education classroom must be inadequate;
- the provision of special education must result in improved growth.

The research program using curriculum-based measurement (CBM) by Lynn Fuchs and Doug Fuchs provides empirical support for the dual discrepancy approach as a decision-making guide in LD eligibility determination (Fuchs, 1995; Fuchs, Fuchs, & Fernstrom, 1993; Fuchs, Fuchs, & Hamlett, 1989a, 1989b, 1989c, 1994; Fuchs, Fuchs, Hamlett, Phillips, & Karns, 1995). Similarly, Douglas Marston of Minneapolis Public Schools has successfully used CBM to make eligibility determinations for students with LD (Marston, Fuchs, & Deno, 1986; Marston & Magnusson, 1988; Marston, Mirkin, & Deno, 1984). A recent investigation by Speece and Case (2001) provided additional data supporting the dual discrepancy approach to defining LD.

Results of this investigation showed that the curriculum-based measurement dual discrepancy (CBM-DD) group was more deficient on measures of phonological processing and were rated by teachers as having lower academic competence and social skills and more problem behaviors than the regression-based IQ reading achievement (IQ-DS) and low achievement (LA) groups. However, the CBM-DD and IQ-DS groups were not different on a standardized measure of reading achievement, thus demonstrating the specificity of the CBM-DD model. These data provided additional support for using the CBM-DD model to identify students with LD, specifically those with a phonological deficit.

Another approach to identifying students on the basis of responsiveness to intervention comes from the applied behavior analysis (ABA) camp, which offers a *functional* rather than a *structural* explanation for children's academic difficulties—that is, understanding academic failure attempts to relate academic performance to environmental events that precede and follow student performance. Under this rubric, five functional reasons for poor student performance are possible: 1) they do not want to do it ("won't do" problems), 2) they have not spent enough time doing it (lack of practice and feedback), 3) they have not had enough help to do it (insufficient prompting or poor fluency), 4) they have not had to do it that way before (instructional demands do not promote mastery), and 5) they find it too hard (poor match between student skill level and instructional materials).

An extensive research base supports the ABA model for improving academic performances (Elliott, Busse, & Shapiro, 1999; Englemann & Carnine, 1991; Gersten, Woodward, & Darch, 1986; Greenwood, 1991; Woolery, Bailey, & Sugai, 1988). Swanson and Sachs-Lee (2000) summarized 85 studies using single-subject designs across the academic domains of reading, mathematics, writing, and language using direct instruction (DI), strategy

training (SI), combined DI/SI, and non-DI/non-SI (see Swanson & Hoskyn, 1999). This meta-analysis showed that DI and SI were effective in remediating academic deficits (except handwriting) and that all interventions were more effective with lower IQ students than higher IQ students in reading. However, using the ABA approach for eligibility determination creates some measurement challenges because this model relies almost exclusively on single case experimental design data. This paper offers a variety of ways to address this challenge.

Conclusion

The concept of responsiveness to intervention appears to be a viable alternative approach to defining LD, particularly in light of the myriad difficulties with discrepancy-based models. In addition, assessment procedures should contribute to the planning and implementation of more effective treatments to remediate academic deficits. However, before the field can adopt responsiveness to intervention in eligibility determination, a host of unresolved issues await further investigation and deliberation:

- selecting the "best" intervention available,
- determining the optimal length and intensity of the intervention,
- ensuring the integrity of interventions,
- employing appropriate decision rules in defining "adequate" responsiveness, and
- conducting cost-benefit analyses.